Course Code: 1950443 Roll No: **MLRS- R19**

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

III B.Tech I Sem Supply End Examination, December 2022

Electronic Measurements and Instrumentation

(ECE)

Time: 3 Hours. **Max. Marks: 70**

Note: 1. Question paper consists: Part-A and Part-B.
2. In Part – A, answer all questions which carries 20 marks.
3. In Part – B, answer any one question from each unit.
Each question carries 10 marks and may have a, b as sub questions.

PART- A

(10*2 Marks = 20 Marks)

1.	a)	Define Accuracy & Precision	2M	CO1	L1
	b)	Define speed of response and dynamic error.	2M	CO1	L1
	c)	Draw the block diagram of standard signal generator	2M	CO2	L1
	d)	Write the Applications of Wave Analyzer	2M	CO2	L2
	e)	Differentiate Dual Trace and Dual Beam CRO	2M	CO3	L3
	f)	Draw Basic Wave Analyzer with neat sketches	2M	CO3	L2
	g)	Classify the various types of transducers.	2M	CO4	L1
	h)	Write about LVDT.	2M	CO4	L3
	i)	Which type of resistance is used to measure using Kelvin Bridge.	2M	CO5	L4
	j)	Draw basic DC and AC bridge.	2M	CO5	L1

PART- B

(10*5 Marks = 50 Marks)

2	a)	Elaborate Performance Characteristics of instruments	5M	CO1	L1
	b)	Explain DC Voltmeter & DC Ammeter	5M	CO1	L1
		OR			
3	a)	Describe the Calibration of the Shunt Type Ohmmeter	5M	CO1	L1
	b)	Explain how to extend range of Ammeter and voltmeter	5M	CO1	L1
4	a)	Describe the functionality of Frequency wave analyzer with block diagram	5M	CO2	L2
	b)	Explain Heterodyne wave analyzer with neat sketch	5M	CO2	L1
		OR			
5	a)	What is the use of Wien's Bridge and derive different parameters	5M	CO2	L3
	b)	Describe function generator working principle with neat diagram	5M	CO2	L2

6	a)	Describe Block Schematic of CRO	5M	CO3	L3
	b)	Elaborate Storage Oscilloscopes with neat sketch.	5M	CO3	L3
		OR			
7	a)	Draw Lissajous Figures and explain frequency of each pattern	5M	CO3	L3
	b)	Discuss Dual Beam CROs with neat diagram	5M	CO3	L3
8	a)	Derive the gauge factor of strain gauge.	5M	CO4	L3
	b)	Describe the working principle of Thermocouples.	5M	CO4	L2
		OR			
9	a)	Draw and explain Digital Temperature sensing system	5M	CO4	L2
	b)	Explain the working principle of Magneto Strictive Transducers	5M	CO4	L3
10	a)	Derive the resistance using balanced Wheatstone's Bridge	5M	CO5	L3
	b)	Why Maxwell Bridge is used describe with its functionality.	5M	CO5	L4
		OR			
11	a)	What are the sensing elements used to measure Measurement of Humidity and Moisture	5M	CO5	L4
	b)	Describe the different type of Displacement Meters with neat sketched.	5M	CO5	L4

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CO - Course Outcome **BL - Blooms Taxonomy Levels**